Joseph A. Boyle

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Education

Rutgers University, New Brunswick   *New Brunswick, NJ*

B.S., COMPUTER SCIENCE, HONORS PROGRAM (3.52 GPA)   *September 2015 - May 2019*

Academic Research

Visual MIMO: Calibrationless visible-light communications framework using Android phones   *Spring 2016 - Spring 2017*

- Integrated algorithms for decoding color-embedded messages and general speed improvements.
- Designed and built an automated testing bench to analyze message transmission accuracy.
- Conducted an experiment on the effects on message retrieval accuracy when constraining the volume of differential metamers.
- Presented at Computer Vision and Pattern Recognition 2016 conference.

Work Experience

Rutgers University, Computer Science Department   *Piscataway, NJ*

PROGRAMMER   *July 2017 - Present*

- Sole developer of a CRUD application for use by students in Introduction to Computer Science.
- Designed a large database design and a testing framework for use in the project.
- Utilized: PHP, MySQL, PHPUnit

Rutgers University, Rutgers Learning Centers   *Piscataway, NJ*

LEARNING ASSISTANT (INTRODUCTION TO COMPUTER SCIENCE)   *August 2016 - Present*

- Facilitate a 55-minute recitations and study groups.
- Actively encourage deeper understandings of concepts and their motivations.

Rutgers University, School of Arts and Science IT   *Piscataway, NJ*

PROGRAMMER   *September 2015 - June 2016*

- Developed a series of course searching modules and a staff directory module on Joomla!.
- Automated the transfer of data from old systems to the Joomla! CMS.
- Utilized: PHP, MySQL

Relevant Coursework

Computer Science   Computer Architecture, Databases, Data Structures, Discrete Structures I & II, Systems Programming, Principles of Programming Languages

Engineering   Independent Study in Computer Vision

Independent Projects

Char   An 8-bit architecture with its own instruction set, CPU design, and simulator written in C.

Indigo   An Assembly-like language with a compiler written in C, run on the Char architecture.

VoxelGen   A procedurally generated Minecraft clone written in C++, using OpenGL for graphics.

Charm   A toy functional programming language written in C.

Biometric Login   A proof-of-concept login system which utilizes how you type to authenticate you.

Chemify   An Android application which solves various chemistry problems such as predicting chemical reactions, dimensional analysis, and chemical nomenclature.

Enigma Machine   A horror game written in Java and LWJGL.

RestaurantStock   A web-based restaurant inventory management system written in PHP.

Skills

Languages   C, Java, PHP, Android, MySQL, C++, Scheme, MATLAB, Javascript

Software   Linux, Git, OpenGL